OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **LAKE MONOMONAC** the program coordinators recommend the following actions. *We would like to encourage the association to conduct more sampling events in the future. With a limited amount of data it is difficult to determine water quality trends. Since weather patterns and activity in the watershed can change throughout the summer it is a good idea to sample the lake several times over the course of the season. The only sampling that has occurred in the previous three years was in conjunction with the schools of Winchendon, MA and Rindge, NH. With the recent problems with milfoil and the generally large size of the lake it would be beneficial to include second and third sampling events.*

FIGURE INTERPRETATION

- Figure 1: These graphs illustrate concentrations of chlorophyll-a, also a measure of algal abundance, in the water column. Algae are microscopic plants that are a natural part of lake ecosystems. Algae contain chlorophyll-a, a pigment necessary for photosynthesis. A measure of chlorophyll-a can indicate the abundance of algae in a lake. The historical data (the bottom graph) show a *slightly worsening* in-lake chlorophyll-a trend, which means concentrations have increased. The chlorophyll concentration increased this season, and golden-brown algae were dominant. Blue-green algae were present in the plankton sample; these algae can be indicators of unwanted lake pollutants. Increasing the sampling frequency in the summer will help to determine if blue-greens are a threat to the lake. While algae are present in all lakes, an excess amount of any type is not welcomed. Concentrations can increase when there are external and internal sources of phosphorus, which is the nutrient algae depend upon for growth. It's important to continue the education process and keep residents aware of the sources of phosphorus and how it influences lake quality.

- Figure 2: Water clarity is measured by using a Secchi disk. Clarity, or transparency, can be influenced by such things as algae, sediments from erosion, and natural colors of the water. The graphs on this page show historical and current year data. The lower graph shows a *slightly improving* trend in lake transparency, however transparency decreased this season. The 2000 sampling season was considered to be wet and, therefore, average transparency readings

are expected to be slightly lower than last year's readings. Higher amounts of rainfall usually cause more eroding of sediments into the lake and streams, thus decreasing clarity.

- Figure 3: These figures show the amounts of phosphorus in the epilimnion (the upper layer in the lake) and the hypolimnion (the lower layer); the inset graphs show current year data. Phosphorus is the limiting nutrient for plants and algae in New Hampshire waters. Too much phosphorus in a lake can lead to increases in plant growth over time. These graphs show a *fairly stable* trend for in-lake phosphorus levels. Phosphorus concentrations were low in both the epilimnion and hypolimnion. Establishing a trend for in-lake phosphorus levels is more accurate with more data points. One of the most important approaches to reducing phosphorus levels is educating the public. Humans introduce phosphorus to lakes by several means: fertilizing lawns, septic system failures, and detergents containing phosphates are just a few. Keeping the public aware of ways to reduce the input of phosphorus to lakes means less productivity in the lake. Contact the VLAP coordinator for tips on educating your lake residents or for ideas on testing your watershed for phosphorus inputs.

OTHER COMMENTS

- **Please note** in June, phosphorus concentrations in Colburn Inlet and State Line Inlet were less than 5 ìg/L. The NHDES Laboratory Services adopted a new method of recording total phosphorus this year and the lowest value that can be recorded is 'less than 5 µg/L'. We would like to remind the association that a reading of 5 µg/L is considered low for New Hampshire's waters.

- Conductivity in Colburn Inlet increased this year (Table 6). Conductivity increases often indicate the influence of human activities on surface waters. Septic system leachate, agricultural runoff, iron deposits, and road runoff can all influence conductivity. It would be useful to uncover the reasons for increased conductivity as we continue to monitor the lake.

- In 2000, small amounts of the blue-green algae *Anabaena* were observed in the plankton sample. Blue-green algae can reach nuisance levels when sufficient nutrients and favorable environmental conditions are present. While overall algal abundance continues to be low in the lake, the presence of these indicator species should serve as a reminder of the lake's delicate balance. Continued care to protect the watershed by limiting or eliminating fertilizer use on lawns, keeping the lake shoreline natural, and properly maintaining septic systems and roads will keep algae populations in balance.

- Once again, we had a successful lake ecology day at Lake Monomonac this season. Thank you to all the volunteers, whose efforts are greatly appreciated. We enjoy spending the day with the Rindge and Winchendon middle school students. Their enthusiasm is a positive response to the Interactive Lake Ecology program, and we are looking forward to next season's field day!

NOTES

- Monitor's Note (6/8/00): Drifted while sampling.

USEFUL RESOURCES

A Guide to Developing and Re-Developing Shoreland Property in New Hampshire: A Blueprint to Help You Live By the Water. North Country RC&D, 1994. (603) 527-2093.

Lake Eutrophication, WD-BB-3, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

Lake Protection Tips: Some Do's and Don'ts for Maintaining Healthy Lakes, WD-BB-9, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

Proper Lawn Care Can Protect Waters, WD-BB-31, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

Sand Dumping - Beach Construction, WD-BB-15, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

What Can You Do to Prevent Shoreland Erosion?, WD-BB-30, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

The Watershed Guide to Cleaner Rivers, Lakes, and Streams, Connecticut River Joint Commissions, 1995. (603) 826-4800

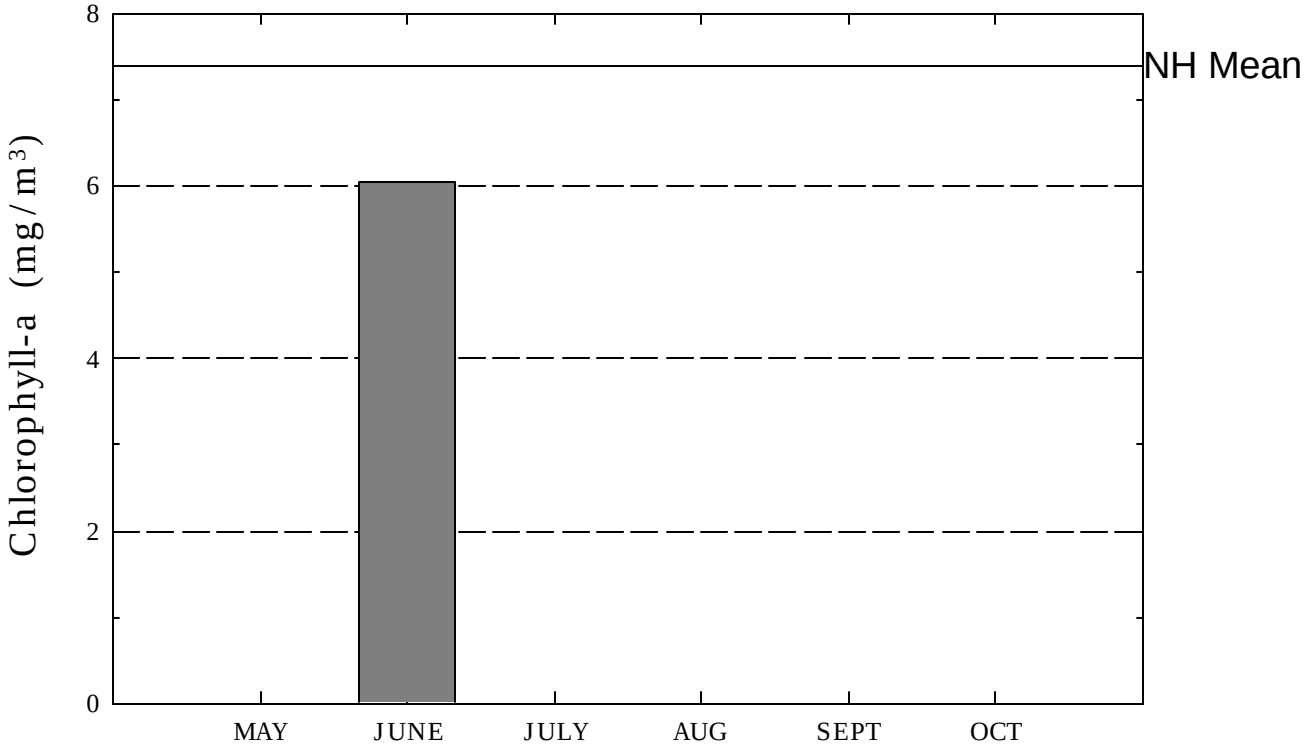
Law Prohibits Exotic Aquatic Plants, WD-BB-40, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

Weed Watchers: An Association to Halt the Spread of Exotic Aquatic Plants, WD-BB-4, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

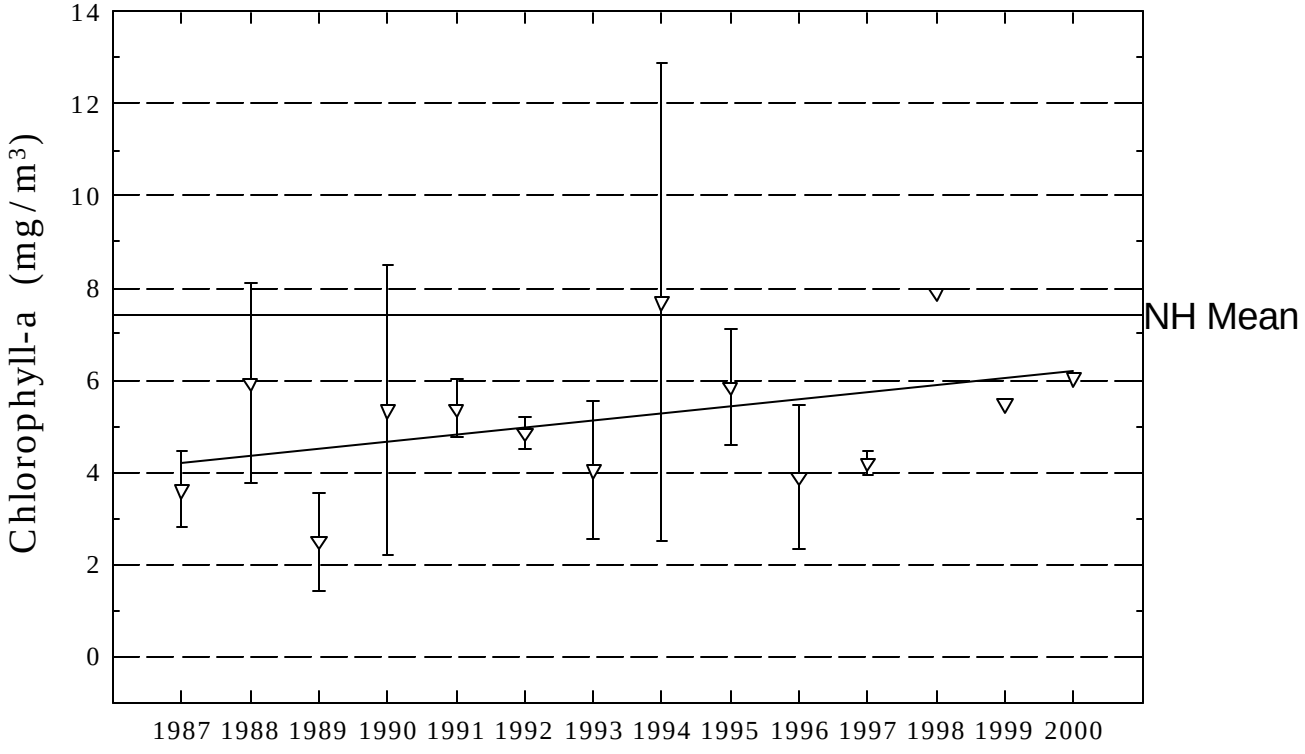
The Blue Green Algae. North American Lake Management Society, 1989. (608) 233-2836 or www.nalms.org

Lake Monomonac

Figure 1. Monthly and Historical Chlorophyll-a Results



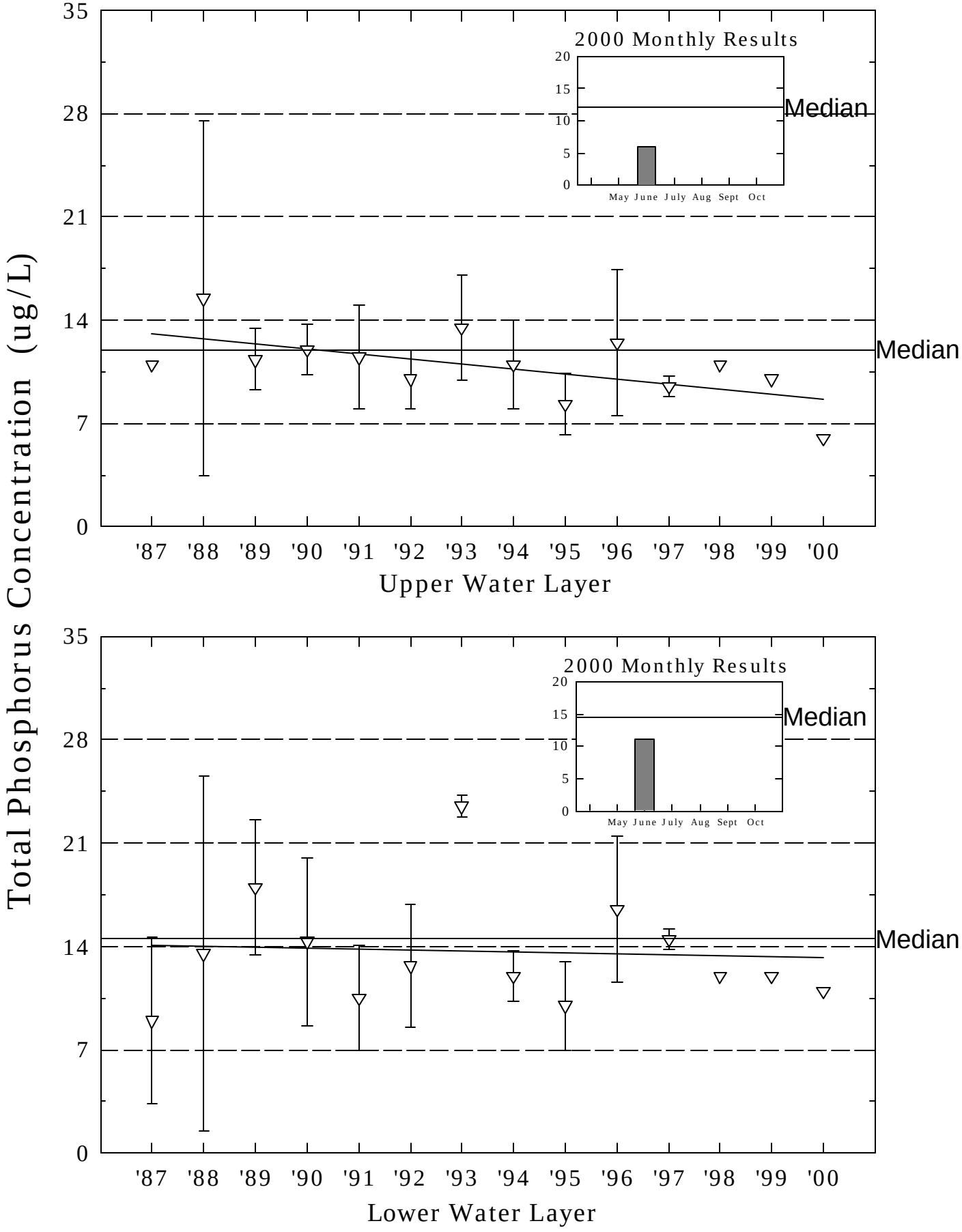
2000 Chlorophyll-a Results



Historical Chlorophyll-a Results

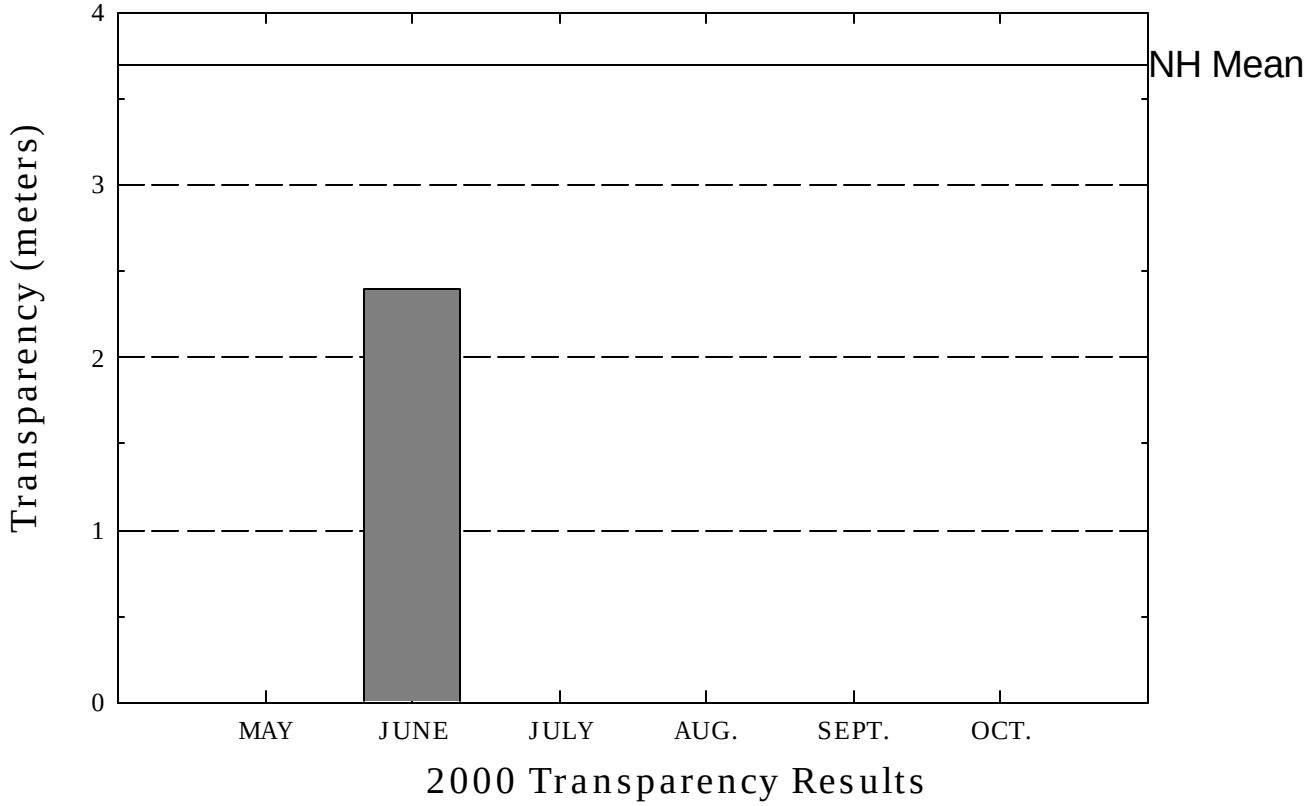
Lake Monomonac

Figure 3. Monthly and Historical Total Phosphorus Data.



Lake Monomonac

Figure 2. Monthly and Historical Transparency Results



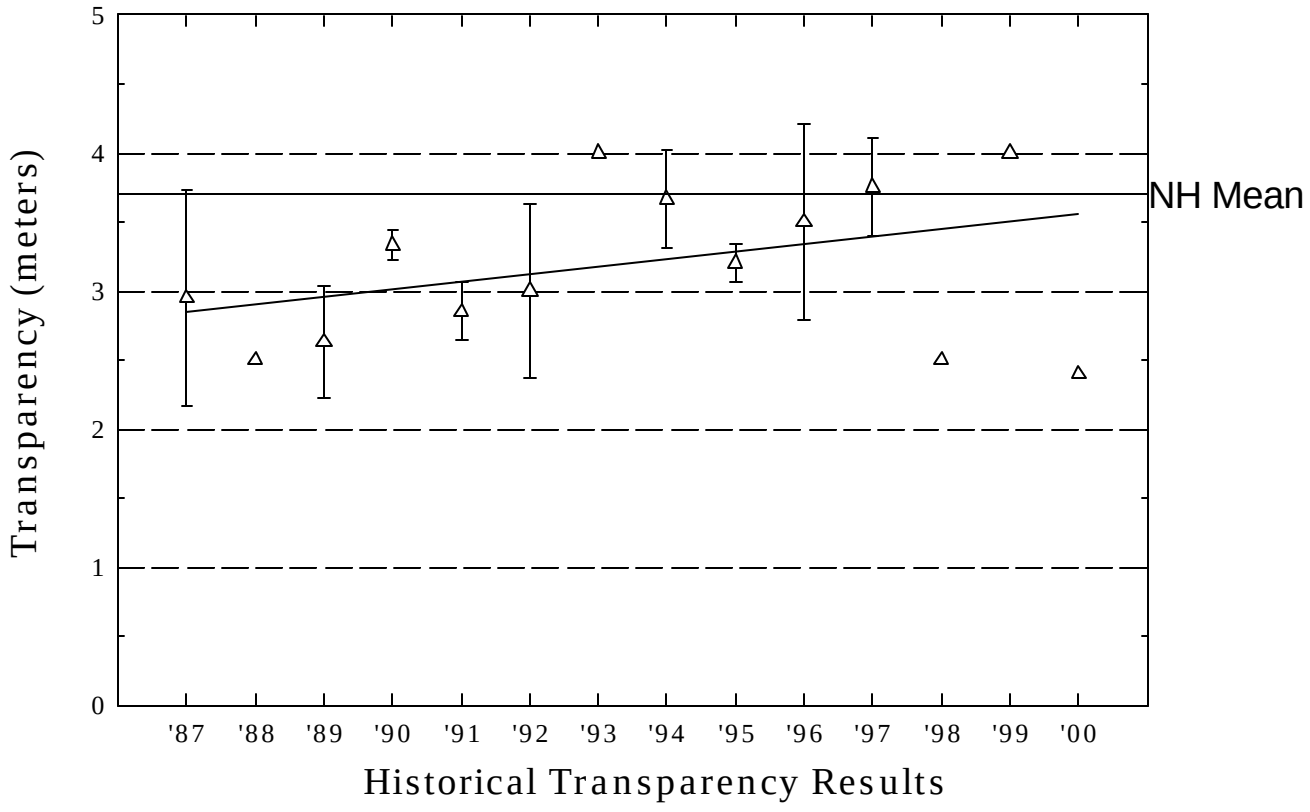


Table 1.

MONOMONAC, LAKE

RINDGE

Chlorophyll-a results (mg/m^3) for current year and historical sampling periods.

Year	Minimum	Maximum	Mean
1987	3.03	4.20	3.61
1988	4.39	7.46	5.92
1989	1.26	3.22	2.49
1990	3.41	8.98	5.35
1991	4.93	5.83	5.38
1992	4.57	5.26	4.85
1993	3.00	5.09	4.39
1994	1.68	10.78	7.69
1995	4.95	7.29	5.84
1996	2.77	5.01	3.89
1997	4.01	4.39	4.20
1998	7.90	7.90	7.90
1999	5.48	5.48	5.48
2000	6.04	6.04	6.04

Table 2.

MONOMONAC, LAKE

RINDGE

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
07 / 29 / 1987	ANABAENA	63
	STAURASTRUM	13
06 / 10 / 1988	DINOBRYON	52
	MALLOMONAS	24
06 / 14 / 1989	ASTERIONELLA	46
	DINOBRYON	22
	UROGLENOPSIS	
07 / 11 / 1990	SPHAEROCYSTIS	32
	ANABAENA	44
06 / 28 / 1991	ASTERIONELLA	66
	SYNURA	16
	DINOBRYON	13
08 / 30 / 1991	CHRYSOSPHAERELLA	22
	PERIDINIUM	21
	STAURASTRUM	21
07 / 02 / 1992	ANABAENA	43
	ASTERIONELLA	17
	DINOBRYON	9
06 / 10 / 1994	DINOBRYON	30
	SYNURA	48
	ASTERIONELLA	11
06 / 02 / 1995	UROGLENOPSIS	92
	DINOBRYON	5
06 / 19 / 1996	SYNURA	83
	ANABAENA	7
	ASTERIONELLA	3
06 / 10 / 1997	TABELLARIA	72
	DINOBRYON	8
	ASTERIONELLA	6

Table 2.

MONOMONAC, LAKE

RINDGE

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
06/09/1998	TABELLARIA	51
	MALLOMONAS	41
	DINOBRYON	4
06/15/1999	DINOBRYON	29
	TABELLARIA	25
	ASTERIONELLA	14
06/08/2000	DINOBRYON	35
	MALLOMONAS	20
	RHIZOSOLENIA	20

Table 3.

MONOMONAC, LAKE

RINDGE

Summary of current and historical Secchi Disk transparency results (in meters).

Year	Minimum	Maximum	Mean
1987	2.4	3.5	2.9
1988	2.5	2.5	2.5
1989	2.2	3.0	2.6
1990	3.2	3.4	3.3
1991	2.7	3.0	2.8
1992	2.5	3.7	3.0
1993	3.5	4.0	3.7
1994	3.3	4.0	3.6
1995	2.8	3.3	3.0
1996	3.0	4.0	3.5
1997	3.5	4.0	3.7
1998	2.5	2.5	2.5
1999	4.0	4.0	4.0
2000	2.4	2.4	2.4

Table 4.

MONOMONAC, LAKE

RINDGE

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
BEGUN INLET				
	1987	5.77	5.77	5.77
	1988	5.43	6.20	5.73
	1989	5.01	5.91	5.33
	1990	5.57	5.77	5.68
	1991	5.96	5.96	5.96
	1992	5.43	6.01	5.68
	1993	5.71	5.91	5.77
	1994	5.57	6.19	5.85
	1995	5.84	5.84	5.84
	1996	5.82	5.82	5.82
	1997	5.77	5.77	5.77
	1998	5.77	5.77	5.77
	1999	6.10	6.10	6.10
	2000	5.09	5.09	5.09
BLUEBERRY ISL BEACH				
	1995	6.33	6.33	6.33
CAMP MONOMONAC				
	1995	6.41	6.41	6.41
COLBURN INLET				
	1991	6.18	6.18	6.18
	1992	4.78	5.70	5.13
	1993	5.15	6.24	5.31
	1994	5.64	6.31	5.93
	1995	6.14	6.14	6.14

Table 4.

MONOMONAC, LAKE

RINDGE

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1996	5.75	5.75	5.75
	1997	5.91	5.91	5.91
	1998	4.98	4.98	4.98
	1999	5.97	5.97	5.97
	2000	6.31	6.31	6.31
CONVERSE INLET				
	1987	5.91	6.22	6.04
	1988	5.61	6.11	5.84
	1989	5.40	6.10	5.68
	1990	5.88	5.93	5.91
	1991	6.16	6.16	6.16
	1992	5.47	6.22	5.74
	1993	5.90	6.12	5.96
	1994	6.07	6.23	6.15
	1995	6.18	6.27	6.22
	1996	5.85	6.36	6.03
	1997	5.92	6.23	6.05
	1998	5.78	5.78	5.78
	1999	6.12	6.12	6.12
COOT BAY				
	1995	6.40	6.40	6.40
DAVINI ISLAND				
	1995	6.42	6.42	6.42

Table 4.

MONOMONAC, LAKE

RINDGE

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
EPILIMNION				
	1987	6.12	6.13	6.12
	1988	6.09	6.19	6.13
	1989	5.83	6.51	6.13
	1990	6.17	6.26	6.20
	1991	6.18	6.35	6.26
	1992	6.16	6.40	6.28
	1993	6.28	6.44	6.38
	1994	6.02	6.75	6.26
	1995	6.30	6.51	6.37
	1996	6.09	6.27	6.17
	1997	6.11	6.31	6.20
	1998	6.37	6.37	6.37
	1999	6.19	6.19	6.19
	2000	5.99	5.99	5.99
GODDARD INLET				
	1987	6.33	6.36	6.34
	1988	5.73	6.25	6.00
	1989	5.85	6.61	6.09
	1990	6.17	6.38	6.26
	1991	6.39	6.39	6.39
	1992	5.74	6.26	5.98
	1993	6.12	6.12	6.12
	1994	6.24	6.26	6.25
	1995	6.38	6.48	6.43
	1996	6.28	6.56	6.40

Table 4.

MONOMONAC, LAKE

RINDGE

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1997	6.24	6.47	6.34
	1998	6.38	6.38	6.38
	1999	6.23	6.23	6.23
HYPOLIMNION				
	1987	6.07	6.20	6.13
	1988	6.06	6.10	6.08
	1989	5.59	6.56	5.97
	1990	5.78	6.24	5.99
	1991	5.57	6.10	5.76
	1992	5.74	6.20	5.96
	1993	5.81	6.31	6.07
	1994	5.95	6.24	6.07
	1995	6.10	6.45	6.28
	1996	5.60	5.99	5.75
	1997	5.95	6.09	6.01
	1998	6.13	6.13	6.13
	1999	5.87	5.87	5.87
	2000	5.92	5.92	5.92
MARINA AT PARK				
	1994	6.42	6.42	6.42
MARINA INLET				
	1987	5.83	5.83	5.83
	1988	5.98	6.12	6.03
	1989	5.29	6.09	5.55
	1990	5.21	5.72	5.48
	1991	5.94	5.94	5.94

Table 4.

MONOMONAC, LAKE

RINDGE

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1992	5.62	5.99	5.73
	1993	5.29	6.13	5.44
	1994	5.71	5.95	5.84
	1995	5.11	6.42	5.23
	1996	5.97	5.97	5.97
	1997	6.15	6.44	6.27
	1998	5.91	5.91	5.91
	1999	6.49	6.49	6.49
METALIMNION				
	1992	6.15	6.15	6.15
	1994	6.18	6.18	6.18
	1995	6.47	6.47	6.47
NARROWS BAY INLET				
	1987	5.47	5.47	5.47
OUTLET				
	1987	6.23	6.32	6.27
	1988	6.20	6.51	6.33
	1989	5.94	6.34	6.07
	1990	6.19	6.29	6.22
	1991	6.29	6.29	6.29
	1992	5.99	6.26	6.10
	1993	6.21	6.29	6.26
	1994	6.20	6.26	6.23
	1995	6.39	6.40	6.39
	1996	5.69	6.19	5.87
	1997	5.71	5.71	5.71

Table 4.

MONOMONAC, LAKE

RINDGE

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1998	5.98	5.98	5.98
	1999	6.24	6.24	6.24
	2000	6.09	6.09	6.09
PARADISE ISLAND				
	1995	6.40	6.40	6.40
SPILLWAY OUTLET				
	1993	5.85	5.86	5.85
	1994	5.73	6.16	5.84
	1995	6.22	6.22	6.22
	1996	5.88	5.88	5.88
	1997	5.77	5.79	5.78
	1998	6.20	6.20	6.20
	1999	6.23	6.23	6.23
	2000	6.00	6.00	6.00
STATE LINE INLET				
	1987	5.03	5.03	5.03
	1988	5.35	5.46	5.40
	1989	4.90	5.47	5.11
	1990	5.08	5.59	5.25
	1991	5.61	5.61	5.61
	1992	4.97	5.88	5.22
	1993	4.87	4.87	4.87
	1994	4.85	5.44	5.05
	1995	5.84	5.84	5.84
	1996	5.32	5.32	5.32
	1997	5.19	5.19	5.19

Table 4.

MONOMONAC, LAKE

RINDGE

pH summary for current and historical sampling seasons.
Values in units, listed by station and year.

Station	Year	Minimum	Maximum	Mean
	1998	5.09	5.09	5.09
	1999	5.83	5.83	5.83
	2000	4.84	4.84	4.84
SWAN POINT				
	1987	6.10	6.10	6.10
	1988	5.75	6.10	5.92
	1989	5.32	6.16	5.52
	1990	5.81	6.30	5.98
	1991	6.19	6.19	6.19
	1992	5.60	6.16	5.75
	1993	6.02	6.18	6.07
	1994	6.26	6.40	6.32
	1995	6.09	6.39	6.26
	1996	6.06	6.07	6.06
	1997	5.87	6.25	6.02
	1998	5.62	5.62	5.62
	1999	5.99	5.99	5.99
	2000	5.37	5.37	5.37
WELCH DITCH				
	1987	5.12	5.12	5.12
	1988	4.95	5.14	5.01
	1989	4.63	5.10	4.87
	1990	4.97	5.10	5.03

Table 5.

MONOMONAC, LAKE

RINDGE

Summary of current and historical Acid Neutralizing Capacity.
Values expressed in mg/L as CaCO .

Epilimnetic Values

Year	Minimum	Maximum	Mean
1987	1.40	1.40	1.40
1988	1.80	2.60	2.20
1989	1.10	4.00	2.33
1990	1.40	2.10	1.63
1991	1.50	1.70	1.60
1992	2.10	2.50	2.27
1993	1.80	2.00	1.93
1994	1.80	1.90	1.83
1995	1.70	2.20	1.90
1996	1.60	2.10	1.85
1997	1.60	2.60	2.10
1998	1.60	1.60	1.60
1999	1.70	1.70	1.70
2000	1.70	1.70	1.70

Table 6.

MONOMONAC, LAKE

RINDGE

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
BEGUN INLET				
	1987	50.1	50.1	50.1
	1988	52.7	75.7	61.8
	1989	53.4	66.4	58.3
	1990	56.9	93.1	76.1
	1991	47.5	47.5	47.5
	1992	41.4	65.3	53.2
	1993	75.8	79.3	78.1
	1994	66.3	83.5	76.1
	1995	55.0	55.0	55.0
	1996	67.7	67.7	67.7
	1997	98.8	98.8	98.8
	1998	88.4	88.4	88.4
	1999	122.9	122.9	122.9
	2000	58.5	58.5	58.5
BLUEBERRY ISL BEACH				
	1995	64.7	64.7	64.7
CAMP MONOMONAC				
	1995	65.4	65.4	65.4
COLBURN INLET				
	1991	94.7	94.7	94.7
	1992	103.2	111.0	106.3
	1993	84.6	119.7	108.0
	1994	101.4	123.7	112.3
	1995	104.8	104.8	104.8
	1996	103.9	103.9	103.9

Table 6.

MONOMONAC, LAKE

RINDGE

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1997	119.8	119.8	119.8
	1998	134.0	134.0	134.0
	1999	144.5	144.5	144.5
	2000	260.0	260.0	260.0
CONVERSE INLET				
	1987	44.3	54.3	49.3
	1988	46.5	53.7	49.2
	1989	43.7	52.4	48.6
	1990	49.1	54.8	51.0
	1991	47.5	47.5	47.5
	1992	39.3	52.3	45.2
	1993	57.3	62.0	60.4
	1994	52.7	63.7	57.3
	1995	51.0	68.7	59.8
	1996	52.0	77.7	64.8
	1997	55.2	63.4	59.3
	1998	48.3	48.3	48.3
	1999	68.6	68.6	68.6
COOT BAY				
	1995	69.5	69.5	69.5
DAVINI ISLAND				
	1995	63.1	63.1	63.1
EPILIMNION				
	1987	55.4	55.4	55.4
	1988	59.4	64.5	62.0
	1989	67.4	68.0	67.6

Table 6.

MONOMONAC, LAKE

RINDGE

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1990	64.5	69.2	66.4
	1991	56.4	59.4	57.9
	1992	57.2	59.5	58.2
	1993	60.9	64.2	63.1
	1994	61.4	66.6	64.3
	1995	61.6	66.4	64.4
	1996	65.1	65.3	65.2
	1997	65.2	68.4	66.8
	1998	63.4	63.4	63.4
	1999	76.8	76.8	76.8
	2000	73.9	73.9	73.9
GODDARD INLET				
	1987	86.8	94.5	90.6
	1988	89.2	92.6	90.4
	1989	96.0	99.4	98.0
	1990	104.2	108.0	106.0
	1991	99.4	99.4	99.4
	1992	98.9	100.4	99.8
	1993	94.5	96.8	96.0
	1994	103.8	108.8	106.5
	1995	100.3	108.2	104.2
	1996	101.0	101.4	101.2
	1997	106.4	111.6	109.0
	1998	102.3	102.3	102.3
	1999	129.5	129.5	129.5

Table 6.

MONOMONAC, LAKE

RINDGE

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
HYPOLIMNION				
	1987	54.6	56.3	55.5
	1988	59.3	64.4	61.8
	1989	67.0	68.4	67.6
	1990	64.1	69.0	66.5
	1991	54.7	59.6	57.1
	1992	59.3	61.7	60.6
	1993	59.6	63.3	62.0
	1994	61.3	66.9	64.5
	1995	63.0	66.9	65.0
	1996	64.8	66.4	65.6
	1997	65.4	67.3	66.3
	1998	64.3	64.3	64.3
	1999	76.2	76.2	76.2
	2000	73.2	73.2	73.2
MARINA AT PARK				
	1994	102.9	102.9	102.9
MARINA INLET				
	1987	85.6	85.6	85.6
	1988	84.8	103.6	95.1
	1989	80.0	100.5	87.6
	1990	75.0	99.8	88.9
	1991	86.1	86.1	86.1
	1992	74.0	85.3	79.5
	1993	105.8	108.7	107.7
	1994	100.0	120.7	107.0

Table 6.

MONOMONAC, LAKE

RINDGE

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
	1995	101.7	108.8	107.0
	1996	98.2	98.2	98.2
	1997	102.6	120.7	111.6
	1998	83.1	83.1	83.1
	1999	119.5	119.5	119.5
METALIMNION				
	1992	58.1	58.1	58.1
	1994	65.6	65.6	65.6
	1995	65.3	65.3	65.3
NARROWS BAY INLET				
	1987	19.2	19.2	19.2
OUTLET				
	1987	53.9	54.2	54.1
	1988	62.2	62.9	62.5
	1989	66.2	67.5	66.7
	1990	62.9	65.9	64.0
	1991	59.1	59.1	59.1
	1992	56.0	61.6	58.8
	1993	59.8	61.7	61.0
	1994	63.1	66.6	65.3
	1995	63.4	63.9	63.6
	1996	64.2	69.7	66.9
	1997	65.9	65.9	65.9
	1998	65.7	65.7	65.7
	1999	77.2	77.2	77.2
	2000	72.7	72.7	72.7

Table 6.

MONOMONAC, LAKE

RINDGE

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
PARADISE ISLAND				
	1995	64.9	64.9	64.9
SPILLWAY OUTLET				
	1993	63.7	66.8	65.7
	1994	67.6	73.0	69.7
	1995	64.9	64.9	64.9
	1996	65.6	65.6	65.6
	1997	66.0	77.6	71.8
	1998	64.3	64.3	64.3
	1999	102.5	102.5	102.5
	2000	75.9	75.9	75.9
STATE LINE INLET				
	1987	24.4	24.4	24.4
	1988	24.2	38.2	31.2
	1989	19.9	27.9	23.6
	1990	19.4	24.6	22.8
	1991	99.1	99.1	99.1
	1992	14.9	22.5	19.2
	1993	40.0	40.0	40.0
	1994	15.6	21.5	18.5
	1995	18.7	18.7	18.7
	1996	20.9	20.9	20.9
	1997	20.2	20.2	20.2
	1998	20.1	20.1	20.1
	1999	43.1	43.1	43.1
	2000	23.3	23.3	23.3

Table 6.

MONOMONAC, LAKE

RINDGE

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Station	Year	Minimum	Maximum	Mean
SWAN POINT				
	1987	109.9	109.9	109.9
	1988	100.9	122.8	113.6
	1989	96.2	140.2	117.8
	1990	129.3	140.7	133.5
	1991	121.3	121.3	121.3
	1992	101.4	131.5	114.2
	1993	114.8	165.5	148.6
	1994	132.5	167.4	145.4
	1995	65.8	122.9	89.7
	1996	117.5	132.8	125.1
	1997	126.4	131.9	129.1
	1998	110.0	110.0	110.0
	1999	166.6	166.6	166.6
	2000	40.3	40.3	40.3
WELCH DITCH				
	1987	29.1	29.1	29.1
	1988	27.3	32.3	30.3
	1989	27.0	30.7	29.0
	1990	25.2	27.5	26.3

Table 8.

MONOMONAC, LAKE

RINDGE

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
BEGUN INLET				
	1987	56	59	57
	1988	41	57	48
	1989	27	58	39
	1990	48	70	61
	1991	74	74	74
	1992	32	38	34
	1993	23	28	25
	1994	36	70	47
	1995	22	53	37
	1996	36	36	36
	1997	25	25	25
	1998	19	19	19
	1999	31	31	31
	2000	10	10	10
COLBURN INLET				
	1991	62	62	62
	1992	24	40	30
	1993	26	85	45
	1994	36	68	47
	1995	23	58	40
	1996	32	32	32
	1997	40	40	40
	1998	17	17	17
	1999	56	56	56
	2000	< 5	5	5

Table 8.

MONOMONAC, LAKE

RINDGE

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
CONVERSE INLET				
	1987	25	28	26
	1988	13	40	25
	1989	16	32	23
	1990	20	23	22
	1991	26	26	26
	1992	11	17	14
	1993	16	29	20
	1994	17	26	21
	1995	15	22	18
	1996	13	26	19
	1997	20	28	24
	1998	13	13	13
	1999	22	22	22
EPILIMNION				
	1987	11	11	11
	1988	7	24	15
	1989	9	13	11
	1990	10	13	12
	1991	9	14	11
	1992	8	12	10
	1993	11	16	14
	1994	8	14	11
	1995	6	10	8
	1996	9	16	12
	1997	9	10	9

Table 8.

MONOMONAC, LAKE

RINDGE

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1998	11	11	11
	1999	10	10	10
	2000	6	6	6
GODDARD INLET				
	1987	24	36	30
	1988	27	89	52
	1989	31	37	33
	1990	31	55	40
	1991	21	21	21
	1992	21	41	32
	1993	9	25	14
	1994	19	21	19
	1995	14	15	14
	1996	12	14	13
	1997	14	15	14
	1998	19	19	19
	1999	13	13	13
HYPOLIMNION				
	1987	5	13	9
	1988	5	22	13
	1989	14	23	18
	1990	8	19	14
	1991	8	13	10
	1992	8	16	12
	1993	23	24	23
	1994	10	13	12

Table 8.

MONOMONAC, LAKE

RINDGE

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1995	7	13	10
	1996	13	20	16
	1997	14	15	14
	1998	12	12	12
	1999	12	12	12
	2000	11	11	11
MARINA AT PARK				
	1994	37	37	37
MARINA INLET				
	1987	30	30	30
	1988	20	40	31
	1989	9	50	25
	1990	10	36	25
	1991	44	44	44
	1992	21	28	23
	1993	14	61	29
	1994	29	95	57
	1995	25	37	29
	1996	44	44	44
	1997	24	51	37
	1998	15	15	15
	1999	24	24	24
METALIMNION				
	1992	8	8	8
	1994	9	9	9

Table 8.

MONOMONAC, LAKE

RINDGE

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
NARROWS BAY INLET				
	1987	29	29	29
OUTLET				
	1987	7	9	8
	1988	19	21	20
	1989	1	11	6
	1990	10	13	12
	1991	9	9	9
	1992	9	9	9
	1993	9	9	9
	1994	8	11	9
	1995	9	9	9
	1996	11	14	12
	1997	9	9	9
	1998	7	7	7
	1999	13	13	13
	2000	5	5	5
SPILLWAY OUTLET				
	1993	18	18	18
	1994	12	70	31
	1995	8	11	9
	1996	12	12	12
	1997	24	43	33
	1998	7	7	7
	1999	17	17	17
	2000	8	8	8

Table 8.

MONOMONAC, LAKE

RINDGE

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
STATE LINE INLET				
	1987	19	19	19
	1988	23	37	30
	1989	19	49	29
	1990	18	68	42
	1991	62	62	62
	1992	22	33	28
	1993	15	15	15
	1994	21	21	21
	1995	22	54	38
	1996	22	22	22
	1997	15	15	15
	1998	11	11	11
	1999	39	39	39
	2000	< 5	5	5
SWAN POINT				
	1987	25	25	25
	1988	20	30	26
	1989	12	26	19
	1990	15	23	18
	1991	29	29	29
	1992	15	29	21
	1993	9	9	9
	1994	20	29	25
	1995	17	54	30
	1996	9	16	12

Table 8.

MONOMONAC, LAKE

RINDGE

Summary historical and current sampling season Total Phosphorus data. Results in ug/L.

Station	Year	Minimum	Maximum	Mean
	1997	12	13	12
	1998	8	8	8
	1999	12	12	12
	2000	7	7	7
WELCH DITCH				
	1987	21	21	21
	1988	4	11	8
	1989	4	48	18
	1990	7	55	31

Table 9.

MONOMONAC, LAKE

RINDGE

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
		June 8, 2000	
0.1	16.5	9.0	92.3
1.0	16.5	9.1	93.1
2.0	16.4	9.1	92.9
3.0	16.0	9.0	91.5
4.0	15.1	8.5	84.3
5.0	14.8	8.2	81.2
6.0	14.4	8.3	81.2

Table 10.

MONOMONAC, LAKE

RINDGE

Historic Hypolimnetic dissolved oxygen and temperature data.

Date	Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
July 29, 1987	5.0	21.2	3.7	40.0
June 10, 1988	7.0	15.0	3.4	62.0
June 14, 1989	7.0	12.5	4.0	37.0
July 11, 1990	7.0	15.0	1.8	17.9
June 28, 1991	7.0	13.2	0.3	2.9
August 30, 1991	7.0	18.0	1.3	13.8
July 2, 1992	7.0	12.5	0.3	2.8
June 10, 1994	7.0	14.6	3.0	29.0
June 2, 1995	7.0	16.0	6.4	64.0
June 19, 1996	8.0	11.5	1.5	13.0
June 10, 1997	7.0	12.7	5.0	46.0
June 9, 1998	7.0	13.4	1.0	9.0
June 15, 1999	7.0	13.4	0.9	8.0
June 8, 2000	6.0	14.4	8.3	81.2

Table 11.

MONOMONAC, LAKE

RINDGE

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
BEGUN INLET				
	1997	0.7	0.7	0.7
	1998	0.6	0.6	0.6
	1999	2.0	2.0	2.0
	2000	0.7	0.7	0.7
COLBURN INLET				
	1997	1.1	1.1	1.1
	1998	0.4	0.4	0.4
	1999	1.1	1.1	1.1
	2000	0.2	0.2	0.2
CONVERSE INLET				
	1997	0.5	1.2	0.9
	1998	0.6	0.6	0.6
	1999	0.8	0.8	0.8
EPILIMNION				
	1997	0.4	0.4	0.4
	1998	0.6	0.6	0.6
	1999	0.4	0.4	0.4
	2000	0.7	0.7	0.7
GODDARD INLET				
	1997	0.6	0.7	0.7
	1998	1.7	1.7	1.7
	1999	1.0	1.0	1.0
HYPOLIMNION				
	1997	0.5	0.6	0.6
	1998	0.5	0.5	0.5
	1999	0.9	0.9	0.9

Table 11.

MONOMONAC, LAKE

RINDGE

Summary of current year and historic turbidity sampling.
Results in NTU's.

Station	Year	Minimum	Maximum	Mean
	2000	0.9	0.9	0.9
MARINA INLET				
	1997	1.1	2.0	1.5
	1998	0.8	0.8	0.8
	1999	1.9	1.9	1.9
OUTLET				
	1997	0.4	0.4	0.4
	1998	0.3	0.3	0.3
	1999	0.5	0.5	0.5
	2000	0.7	0.7	0.7
SPILLWAY OUTLET				
	1997	0.8	2.6	1.7
	1998	0.5	0.5	0.5
	1999	0.5	0.5	0.5
	2000	1.1	1.1	1.1
STATE LINE INLET				
	1997	0.3	0.3	0.3
	1998	0.8	0.8	0.8
	1999	1.5	1.5	1.5
	2000	0.6	0.6	0.6
SWAN POINT				
	1997	0.2	0.3	0.3
	1998	0.4	0.4	0.4
	1999	0.3	0.3	0.3
	2000	0.6	0.6	0.6

Table 12.

MONOMONAC, LAKE

RINDGE

Summary of current year bacteria sampling.
Results in counts per 100ml.

Location	Date	E. Coli See Note Below
#14 (BLANK)		
	July 24	3
LACHANCE COVE		
	July 24	9
LANDANNO		
	July 24	0

NOTE: "<" means "less than" and ">" means "greater than"